

BP DOWNSTREAM INVESTOR DAY

# Advantaged Manufacturing – significant progress and more to come

Rita Griffin – COO Petrochemicals

Douglas Sparkman – COO Fuels North America



# Advantaged manufacturing session overview

- **Safety** – our core value and first priority
- **Our portfolio** – where we operate and why it is advantaged
- Delivering value through **business improvement plans**
  - Globally consistent business improvement plans, executed locally
  - Staffed by world class capability
  - Competitively benchmarked and performance managed



# Refining – high graded and advantaged portfolio

**11**

refineries on  
4 continents

**~1.9**

refining  
capacity  
(mbd)

**>\$1bn**

underlying  
improvement  
2014-16<sup>(1)</sup>



○ BP operated refineries

○ Non-operated refineries

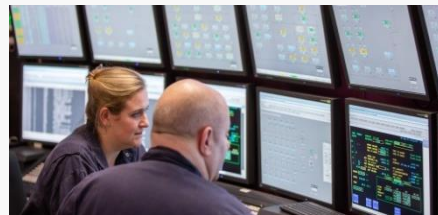
**Configuration  
advantage**



**Location  
advantage**



**Feedstock advantage and  
flexibility**



**Synergies with marketing  
and supply & trading**



# Significant progress and more to come

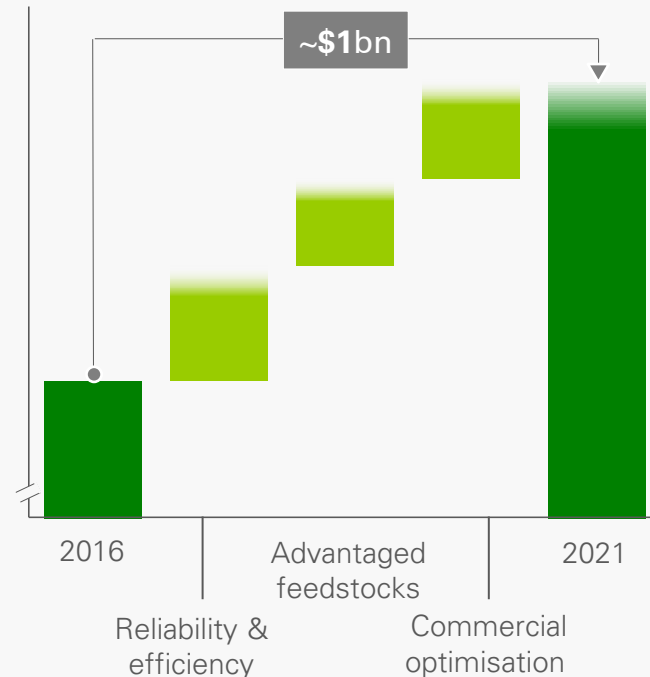
## Business Improvement Plans delivering sustainable value



~\$1bn

Refining growth<sup>1</sup>  
still to come

## Underlying earnings growth<sup>1</sup> \$bn



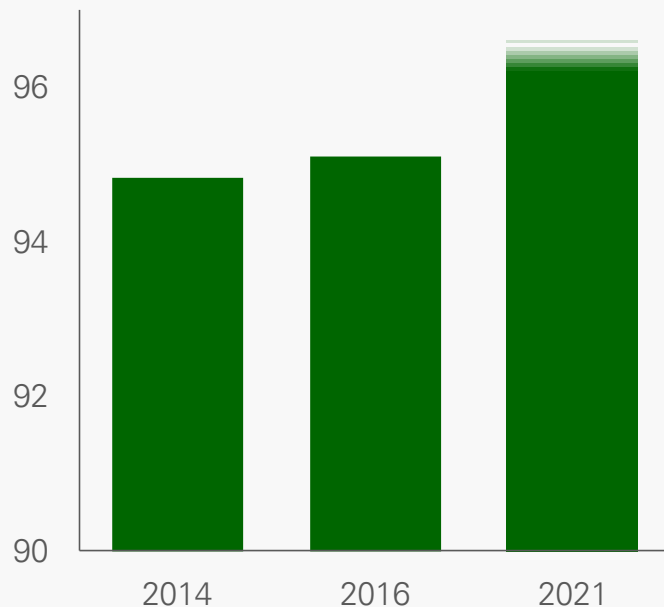
# Reliability and efficiency

**Top  
quartile**

Solomon availability

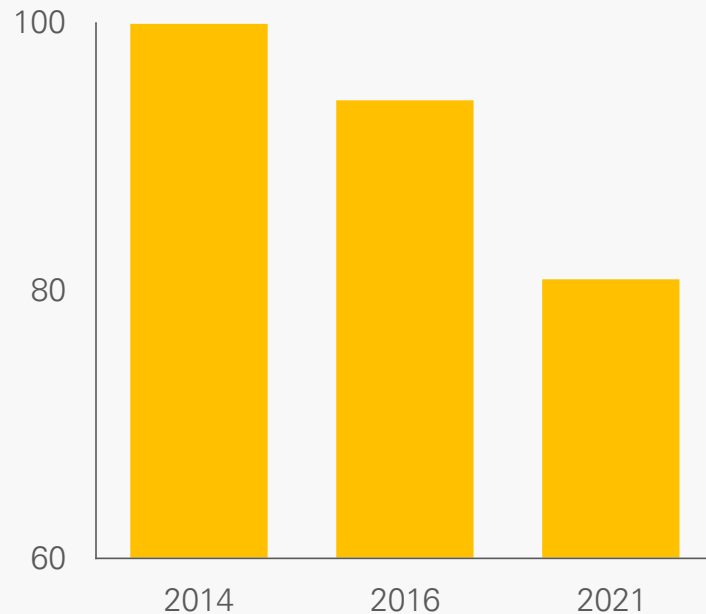
**Reliability: reaching top quartile  
Solomon availability<sup>1</sup>**

%



**Efficiency: ~20% improvement in  
non-energy cash costs<sup>1,2</sup>**

%





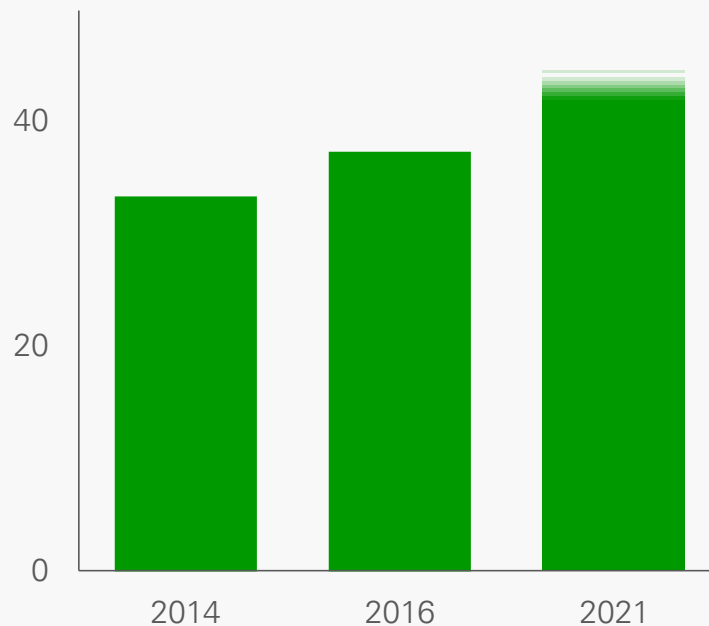
# Advantaged feedstocks

- Advantaged location and configuration
- Coordination with supply and trading to identify and access feedstocks
- Flexibility to optimise feedstock mix

**~45%**

advantaged  
feedstocks<sup>1</sup> in 2021

**Increase in advantaged feedstocks<sup>1</sup>**  
%



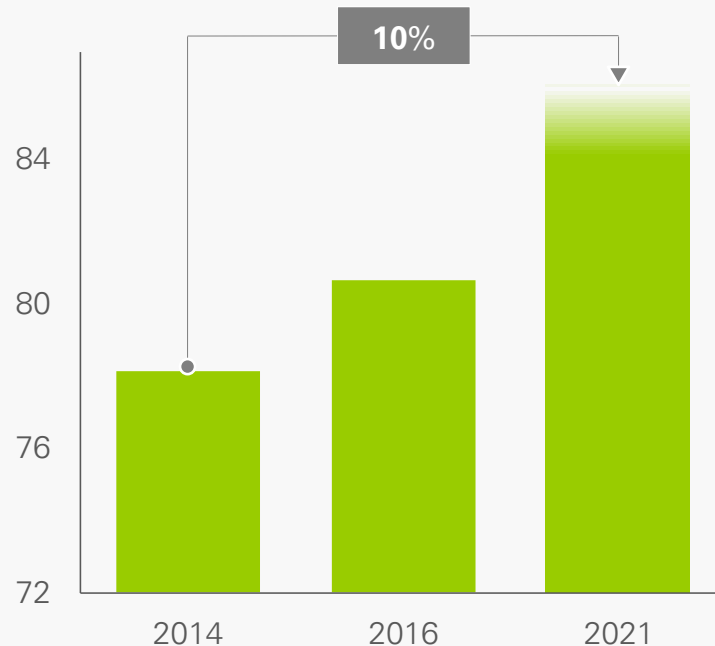
# Commercial optimisation



**Utilisation improvement equivalent to adding a medium sized US refinery**

- Higher utilisation
- Improved production planning and modelling
- Strong linkage to supply and trading

## Reaching top quartile utilisation<sup>1</sup>



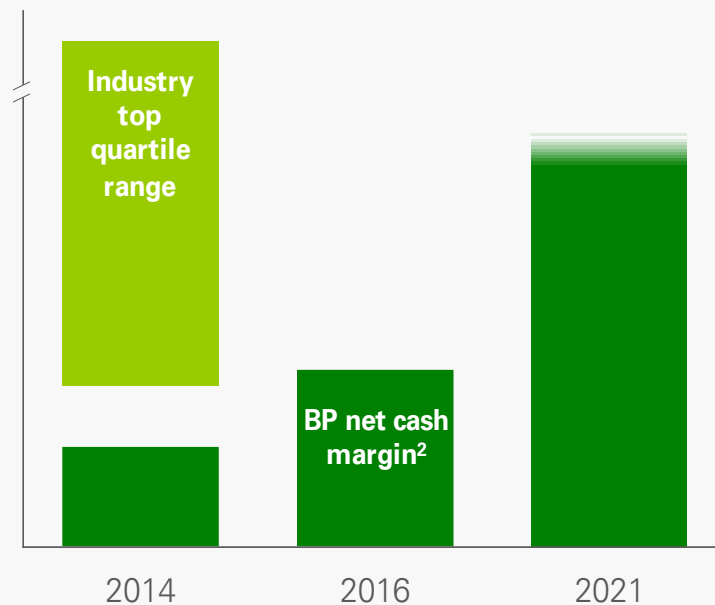
# More competitive, more resilient and more to come

## Top quartile net cash margin<sup>1</sup>

- Competitively advantaged portfolio
- Globally consistent strategic programmes, locally executed
- >\$1bn earnings improvement in 2016 versus 2014
- ~\$1bn earnings growth still to come

## Top quartile net cash margin<sup>1</sup>

\$/bbl





# Petrochemicals – technology enabled growth

**16**

sites in **10**  
countries

**18.6m**

tonnes p.a.  
capacity

**>500**

patents on  
proprietary  
technology

- PX
- PTA
- Acetyls
- O&D and Specialties

**Purified Terephthalic  
Acid (PTA)**



**Paraxylene  
(PX)**



**Acetyls (Acetic Acid  
and Methanol)**



**Olefins and Derivatives  
(O&D) and Specialties**

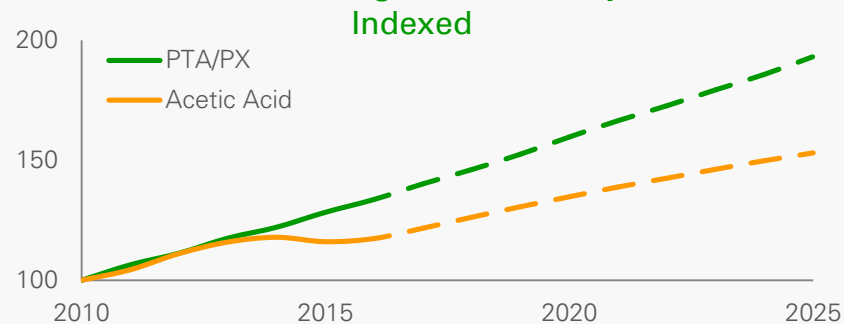


# Petrochemicals market dynamics

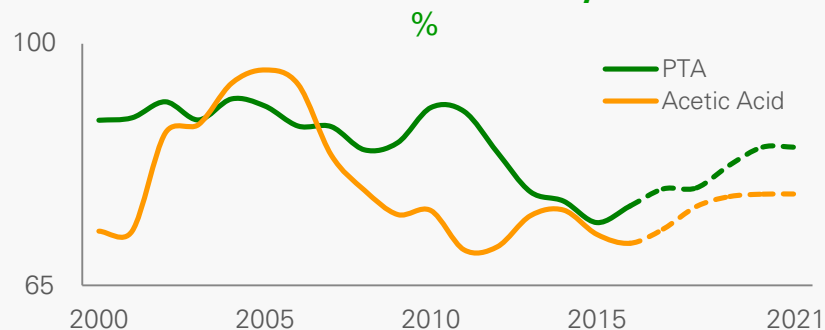


- Demand growth of 4 - 6% per annum
- Reduced utilisation due to capacity overbuild
- Utilisation rates forecast to improve >7% over the next 5 years

## Continued demand growth for our products<sup>1</sup>



## Global PTA & Acetic Acid industry utilisation<sup>1</sup>



# Repositioning and growing earnings

## Business Improvement Plans delivering sustainable value

### Efficient operations



### Technology deployment & licensing



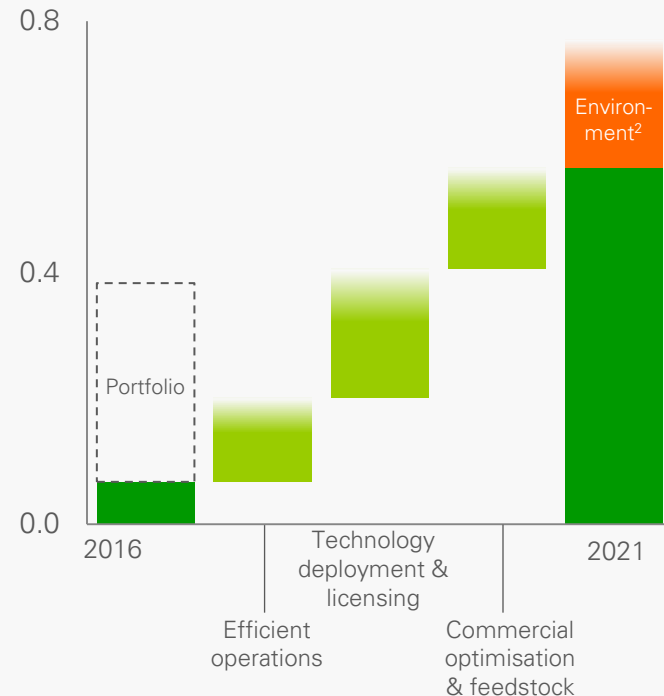
### Commercial optimisation & feedstock

## Significant earnings growth

Double digit  
pre-tax returns

## Pre-tax earnings growth – 2016 to 2021<sup>1</sup>

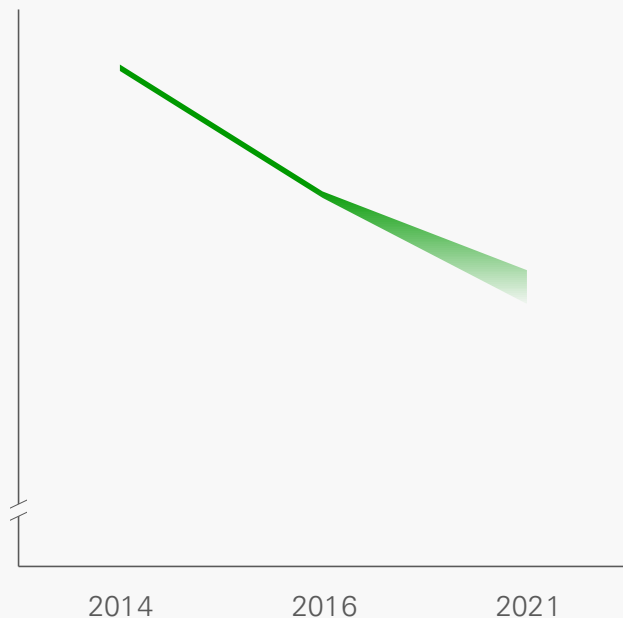
\$bn



# Efficient operations

## Reducing costs

Cash cost per tonne

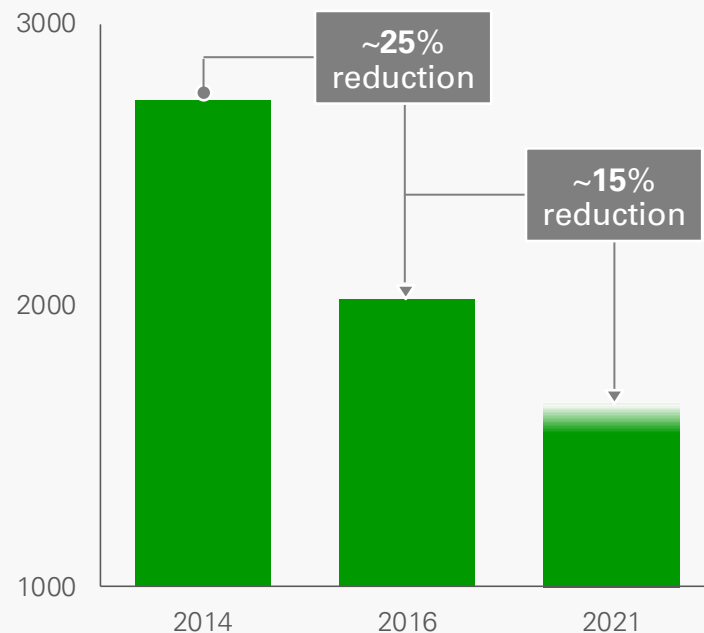


**~20%**

reduction in cash  
cost / tonne  
2016 - 2021

## Right sizing the organisation

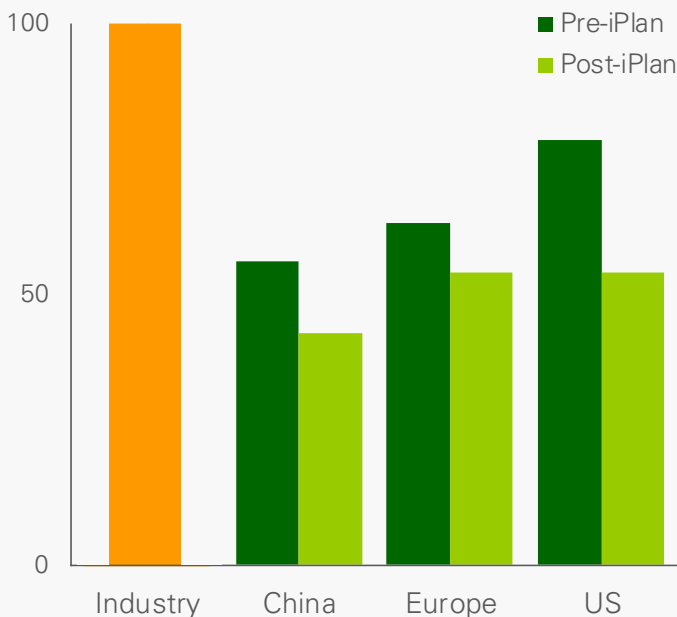
Year end roles



# Technology deployment and licensing

## PTA investment lowers variable costs

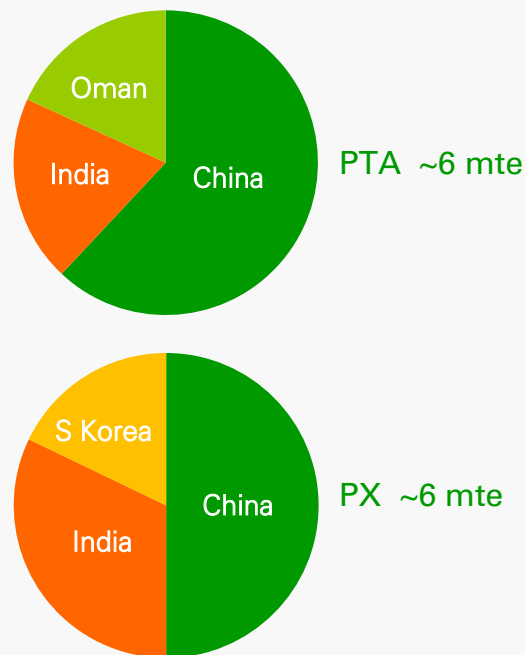
Indexed



**\$60/tonne**  
cost advantage on  
PTA vs conventional  
technology

## Licenses won 2012 – 2017

~80% licence bids won



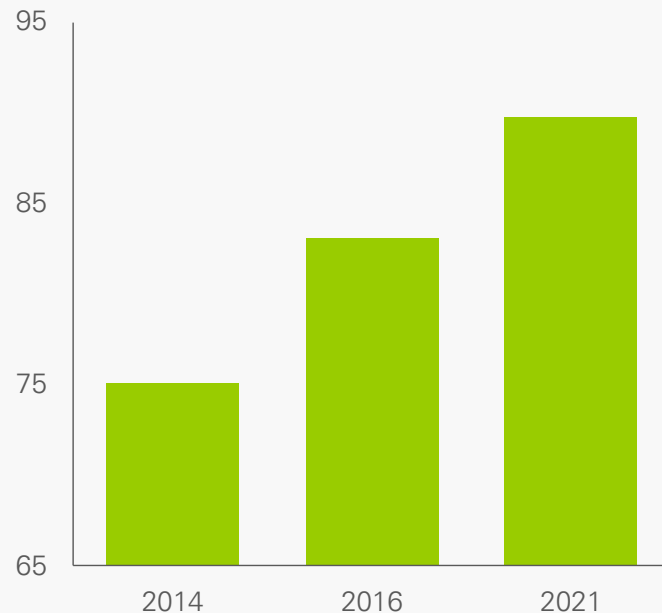
# Commercial optimisation and feedstock

**>10%**  
increase in sales  
volumes  
2016 - 2021

- Sales growth - improved utilisation
- Feedstock sourcing
- Debottlenecks and speciality product growth
- Transition to lower carbon future

## Improving asset performance

Utilisation<sup>1</sup> %



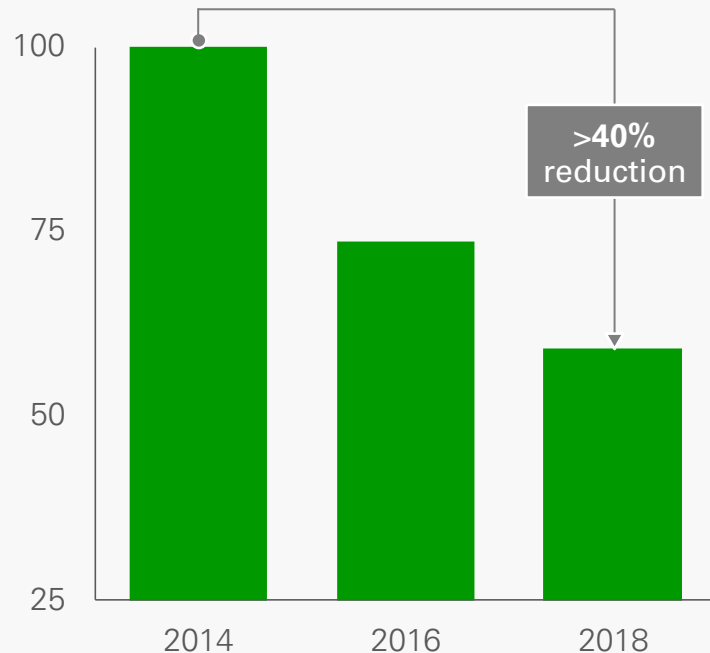
# More resilient, more competitive and more to come

## Repositioning the business and growing earnings

- Access to growth products
- Operations excellence enabled by industry-leading proprietary technology
- Repositioning cost structure to improve bottom-of-cycle resilience
- Significant earnings growth that enables delivery of double digit pre-tax returns

**>40%**  
reduction in cash  
breakeven<sup>1</sup>  
2014 - 2018

## Petrochemicals cash breakeven<sup>1</sup> Indexed





# Advantaged Manufacturing – key messages



## SAFETY

#1

Core value

## REFINING

Top quartile  
net cash margin

## PETROCHEMICALS

>40%

Reduction in cash  
breakeven by 2018

## BUSINESS IMPROVEMENT PLANS

Globally consistent,  
executed locally



## ADVANTAGED MANUFACTURING

>\$1 bn

underlying earnings  
growth<sup>1</sup> still to come

